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DEPOT ROAD BRIDGE

HAER No. CT-158

On Depot Road spanning Mill Brook

600 feet west of Central Vermont Railroad Tracks

Coventry

Tolland County

Connecticut

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORDS

National Park Service

Northeast Region

Philadelphia Support Office

U.S. Custom House

200 Chestnut Street

Philadelphia, P.A. 19106

HISTORIC AMERICAN ENGINEERING RECORD

DEPOT ROAD BRIDGE

HAER No. CT-158

Location: On Depot Road spanning Mill Brook, 600 feet west of Central Vermont Railroad tracks
Coventry
Tolland County
Connecticut

USGS Quadrangle: South Coventry, Connecticut 1:24,000
UTM Coordinates: 18.726740.4626760

Date of Construction: c1831-1835

Present owner: Town of Coventry, Connecticut
1712 Main Street
Coventry, CT 06238

Present use: Vehicular bridge

Significance: The Depot Road Bridge is locally and regionally significant as an excellent, increasingly rare example of 19th-century masonry arch construction using uncut stones. It is also an example of the placement of such durable structures at stream crossings below mill dams.

Project Information: The Town of Coventry will replace the Depot Road Bridge in 1996. This documentation was completed in 1995 in accordance with a Memorandum of Agreement among the United States Army Corps of Engineers, New England Division, the Connecticut State Historic Preservation Officer, and the Town of Coventry

Historian:
Michael S. Raber
Raber Associates
81 Dayton Road
P.O. Box 46
South Glastonbury, CT 06073

Photographer:
Ken Holm
P.O. Box 215
Storrs, CT 06268-0215

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Part I - Historical Information

The Town of Coventry was incorporated in 1712, on the west side of the Willimantic River. From Lake Wangumbaug near the center of the town, Mill Brook falls about 250 feet in two miles to reach the river, and once powered as many as fourteen mill privileges during the first two centuries of Coventry's Euroamerican history. Depot Road, formerly part of Main Street, was established as part of an 18th-century route from the town center across the Willimantic River to Mansfield. This route crossed Mill Brook, and reached the river at a ford and a later series of bridges located about 1000 feet downstream of the river's confluence with the brook. One or more undocumented, probably timber bridges crossed Mill Brook prior to construction of the existing Depot Road Bridge. Construction c1850 of the South Coventry Depot of the New London, Willimantic, and Palmer Railroad, at the rail junction with Main Street, eventually led to the re-naming of the street as Depot Road (Figure 1; Porter 1885: 27-8; Coventry Deeds 17: 450; personal communications, Arnold Carlson).

Although town records have no information on the construction date or builder of this bridge, the evidence of industrial development at this location suggests the bridge was built in the early 1830s. The lowest impoundment on Mill Brook, a concrete-faced rubble dam, is about 320 feet upstream from the bridge. Available data suggest a sawmill in place below a dam at this location by 1809, with a fulling mill for wool finishing added to the sawmill operation c1811-18 by Samuel Guild. Guild sold the mill property to his son-in-law John Boynton, a prominent local industrial entrepreneur who was involved in several Mill Brook sites. Boynton and others organized the Coventry Satinet Manufactory in 1831 at the sawmill-fulling mill location (Warren and Gillet 1811; Coventry Deeds 12: 85, 112; 14: 53; 16: 268; 17: 347, 450; 18: 59). Following this firm's demise c1855, several other individuals or partnerships made satinet here until c1880, when the mill burned (U.S. Department of Commerce 1850-1880; Porter 1885: 28). Perhaps the most unusual component of waterpower development at the satinet works was a stone culvert and open race which carried water from the mill pond not into Mill Brook, but rather below the brook and into the Willimantic River. This arrangement increased the available head from perhaps 10 feet to about 18 feet. The culvert, a rubble-stone arched structure, runs about 750 feet underground from an entrance below the dam to the open race or ditch, which originally ran another 500 feet into the Willimantic. These features were in place by c1850, when a shorter, separate culvert of similar construction was added to carry the ditch under the New London, Willimantic, and Palmer Railroad (now the Central Vermont). Most likely built by the Coventry Satinet Manufactory, the longer culvert was probably installed in the early 1830s when the site was first enlarged. The culvert runs immediately southeast of the bridge, is substantially intact, and is probably 10 feet wide at bottom and at least 7 feet high. Immediately northeast of the bridge, the top of the culvert is in places about 9-13 feet below the surface. A construction trench about 40-50 feet wide and 20 feet deep was probably required to install the culvert, which must pre-date the present bridge (Figure 2; Chandler and Palmer 1906; Ocean Surveys, Inc. 1994; Nathan L. Jacobson & Associates, Inc. 1995).

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Mill Brook is a relatively small stream, easily bridged by a wooden crossing far less costly than a masonry arch. The undocumented decision to build a stone bridge probably reflects the crossing's position on a important local road, and the location of the bridge just below a mill dam, failure of which would have seriously threatened a less durable structure. Similar arrangements have been documented elsewhere in Connecticut (Clouette and Roth 1991: 24-7). It is likely that the dam was enlarged c1831 by the Coventry Satinet Manufactory, again suggesting the vintage of the bridge. The company may even have constructed the bridge in conjunction with the culvert, to protect its own road access and to replace any earlier town bridge demolished for the culvert. Private construction may explain the apparent absence of any town record of building this bridge (cf. Town of Coventry 1782-1842, 1842-1862).

The burned satinet mill remained unused until James N. Nichols bought the property in 1907. He evidently rebuilt the dam to its present form by 1908, and added a mill probably used to make fiberboard, a heavy, flexible laminated paper used as a leather substitute in shoe liners, suitcases, and other products. A series of later owners and tenants after 1911 made fiberboard on a somewhat occasional basis until 1940, when the site again burned. The mill was powered by water and steam. A headrace through the dam reaches what appears to be a concrete turbine bay just east of the dam face, with a 4-foot-diameter vertical opening which probably runs into the 19th-century stone culvert opening just to the east. The culvert was thus likely used during all manufacturing operations here after c1831, one reason it has remained intact under the bridge. There are no documented repairs or alterations to the bridge, which has withstood a number of floods (Coventry Deeds 37: 102, 385; 39: 298-301; 40: 589-90; personal communications, Arnold Carlson, Roland E. Allen, and Paul Luft).

Part II - Descriptive Information

The Depot Road Bridge is an excellent example of the most basic type of masonry arch construction. Carrying the roadway over Mill Brook for a distance of about 35 feet, the bridge includes an 11-foot-wide semi-circular arch of unmortared, largely uncut flat stones, and mixed-size, flat rubble spandrels retaining road fill which is presumably large-size rubble. Many of the arch ring stones are at least partly cut or finished. Bridge stones are gabbro, and appear similar to material visible in an abandoned quarry about a half mile to the east in the Town of Mansfield (personal communications, Arnold Carlson). The 28-foot-long arch rises 6 feet above platforms of large, flat, 6-to-12-inch-thick rubble slabs, set 9.5 feet apart in the brook. The slabs probably rest on undocumented wooden footings. Above the center of the arch, the bridge rises 46 inches to unfinished upper surfaces along the road. The roadway east of the bridge is an embankment, built over lower-lying land and partly eroded from past floods. At the southeast corner of the arch, most vulnerable to flooding, a 4-foot-wide retaining wall provides some additional protection. In 1995, the bridge was substantially intact, but truck traffic was gradually weakening the structure and a pronounced outward lean was visible on the north side.

Part III - Sources of Information

No original drawings or historic views of Depot Road Bridge were located in holdings of the Coventry Town Engineer, the Coventry Historical Society, or the Coventry Town Historian.

Interviews

Arnold Carlson, Coventry Town Historian, P.O. Box 189, 1712 Main Street, Coventry, CT 06238

Roland E. Allen (son of c1931-33 mill lessee John Allen), 67 Washington Street, Concord, NH 03303

Paul Luft (landowner adjacent to Depot Road Bridge), 205 Depot Road, P.O. Box 26, Coventry, CT 06238

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Town of Coventry

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1842-1862 Miscellaneous Town Records, Vol. 2. On file, Town Clerk's Office, Town of Coventry, CT.

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1850 Manuscript returns, Census of Manufactures.

1860 Manuscript returns, Census of Manufactures.

1870 Manuscript returns, Census of Manufactures.

1880 Manuscript returns, Census of Manufactures.

Warren, Moses, and George Gillet

1811 Connecticut from Actual Survey. On file, Connecticut State Library.

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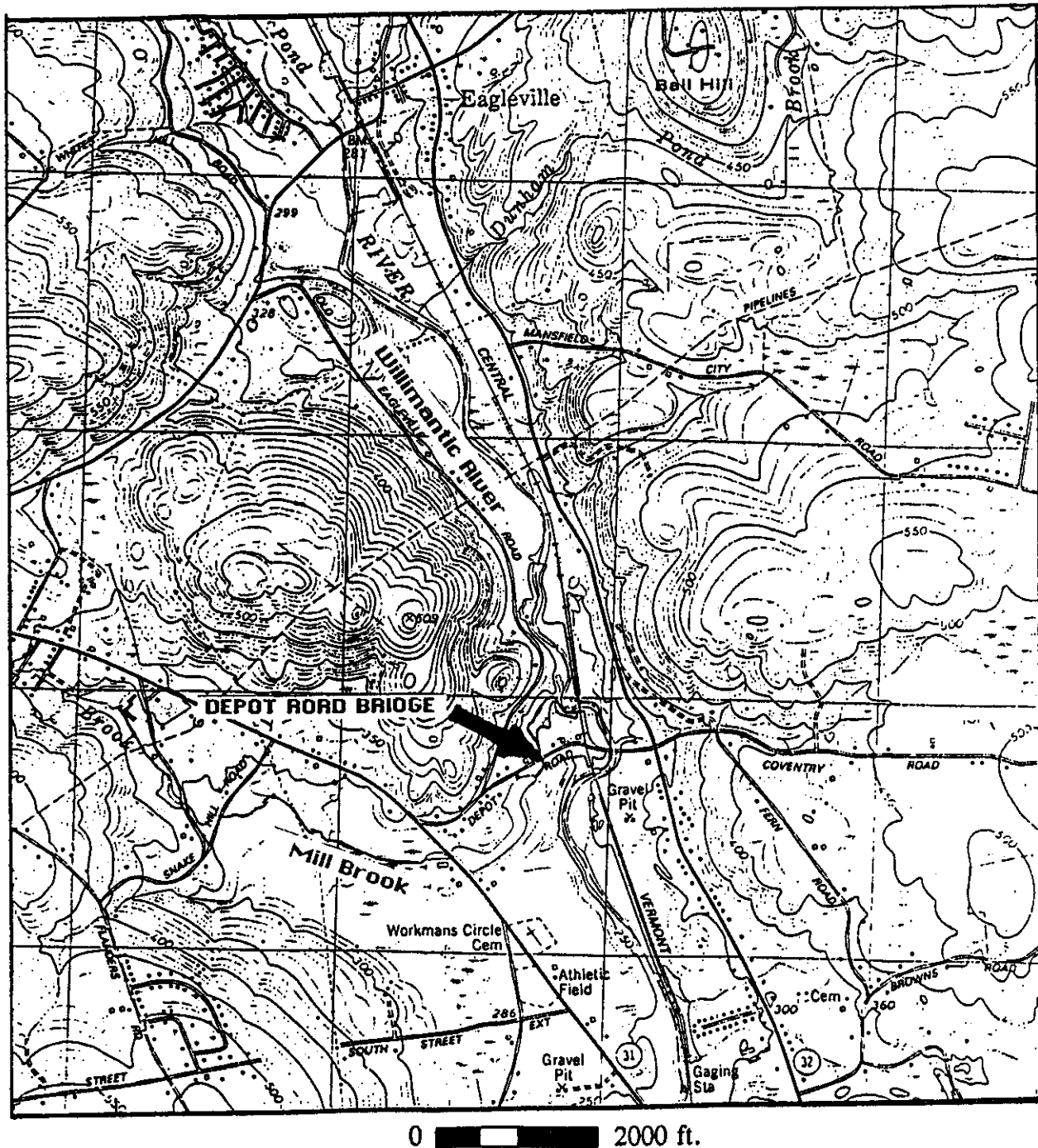


Figure 1. SITE LOCATION
base map: U.S.G.S. South Coventry, Conn. quadrangle

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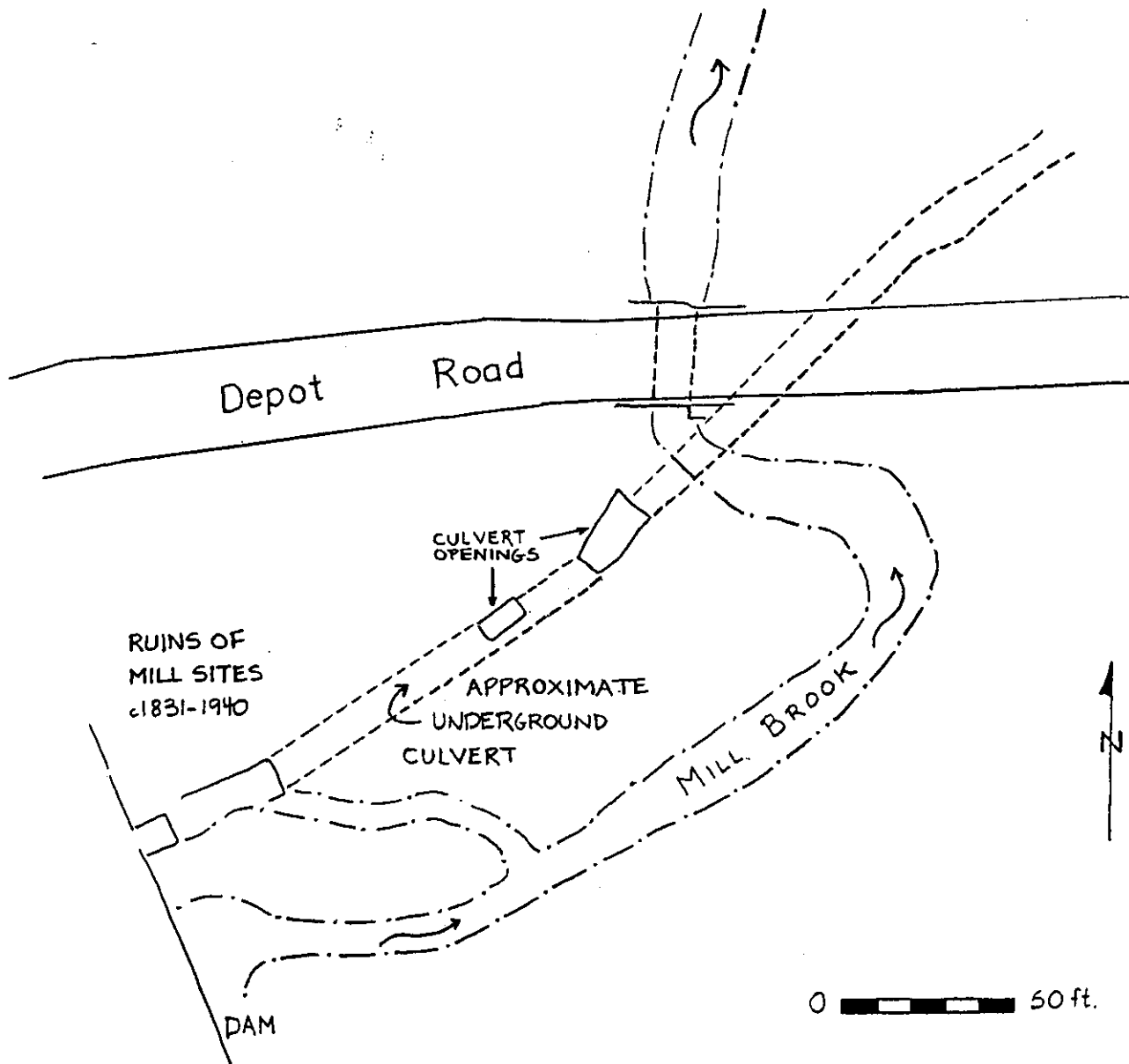


Figure 2. SKETCH PLAN OF HISTORIC FEATURES IN BRIDGE VICINITY